herpy

LACERTIDS

Madagascar Girdled Lizard

Zonosaurus madagascariensis

Zonosaurus madagascariensis is an elongated, diurnal lizard from Madagascar with two pale stripes down the back and a tail almost twice as long as the body. It grows to 36 cm, is fast and alert, and eats both insects and a little fruit. The species needs a deep substrate with a damp corner, a warm basking spot and UVB. Its care is partly based on close relatives.

Family: Gerrhosauridae Former name: *Cicigna madagascariensis*

KEY FACTS

THE ANIMAL

Adult size	**30-36 cm** total length incl. tail
Lifespan	**10-15 years**
Active	**By day**
Lifestyle	**Terrestrial and burrowing**
Habitat	**Savanna and rainforest**
Difficulty	**Intermediate**

CARE

Min. enclosure	**100 × 50 × 50 cm** L × W × H for 1 adult
Temperature, day	**22-28 °C**
Basking spot	**38-42 °C**
Temperature, night	**20-24 °C**
Humidity	**40-60%**
Water	**Water dish**
UVB	**Essential** Ferguson zone 3
Diet	**Insects and fruit**
Kept	**Singly or in pairs**

BREEDING

Reproduction	**Egg-laying**
Clutch size	**2-5 eggs**
Incubation	**70-80 days** at 29-30 °C

PROTECTION AND PAPERWORK

CITES	**Not listed**
EU annex	**Not listed**
IUCN	**Least Concern (LC)**

About the species

Zonosaurus madagascariensis is an elongated lizard in the family Gerrhosauridae. The body is slightly flattened with a pointed snout, short but well-developed legs and a long tail that is almost twice as long as the head and body together. The scales are smooth and sit in regular transverse rows, and a distinct skin fold runs along the flanks. The base colour is brown to reddish brown with dark spots and small pale spots on the legs. Two pale yellow stripes run from the eye along the sides of the back and end at the base of the tail. This distinguishes the species from *Z. laticaudatus*, whose stripes continue onto the tail. The belly is greyish white, and the throat may be reddish.

The animal grows to 36 cm including the tail. Males have a broader tail base and larger femoral pores than females. The species was described in 1831 by John Edward Gray as *Cicigna madagascariensis*. The animals on the Glorioso and Cosmoledo islands are regarded as the subspecies *Z. m. insulanus*.

The species is common in the wild and thrives close to people, but it is rare in captivity. Several species in the genus *Zonosaurus* are kept, but for *Z. madagascariensis* in particular there is little detailed experience. Enclosure size, temperatures and breeding are therefore partly based on the closest relatives, and the text says where this is the case. Lifespan is not

documented; 10-15 years is an estimate based on related species.

Distribution and habitat

Zonosaurus madagascariensis occurs over most of Madagascar and is most common in the east, but also lives in the west and south. It also occurs on the nearby islands of Nosy Be, Nosy Komba, Nosy Sakatia and Nosy Tanikely. The subspecies *Z. m. insulanus* lives on the islands of Glorioso and Cosmoledo north of Madagascar.

> **Native range:** Madagascar and Seychelles.

HABITAT

The species lives in open and degraded moist forest in the lowlands and at medium elevation, in dry, open landscapes, in plantations, at field edges and in scrub. On Cosmoledo it lives in open scrub. It is tied to sunny clearings, forest edges and scrub, where it hunts on the ground. It hides in small tunnels at the base of bushes and can climb some way up tree trunks.

The animal is diurnal and lives alone. It hunts actively and eats a wide range of insects, but also takes fruits and berries. Females lay a few large, elongated eggs in moist soil.

Care

THE ENCLOSURE

An adult needs an enclosure of at least 100 × 50 × 50 cm (length × width × height), and a pair at least 120 × 60 × 50 cm. The size is an estimate based on the closest relatives: a pair of the somewhat larger *Z. haraldmeieri* can be kept in 90 × 50 × 50 cm, but *Z. madagascariensis* is very active and needs room to run. Larger is better.

The substrate should be 5-10 cm deep and consist of a mixture of sand and fertiliser-free soil. Keep about a third of the substrate damp, so the animal can choose. The species digs, especially in the evening, and in a deep substrate tunnels and hides keep their shape. Furnish with roots, cork bark, half-pipes and flat stones as hides and climbing places. Fix the stones in place so they cannot slip. A damp hide with moist coconut fibre or sphagnum at one end is used during shedding and as a laying site.

The enclosure should have a lid and good ventilation. The animal is fast and can get over the edge if the decor reaches too high. Heat lamps must be guarded with a grille.

TEMPERATURE

The species needs a clear gradient. The air in the enclosure should be 22-28 °C during the day, and the basking spot should have a surface temperature of 38-42 °C, measured with an infrared thermometer. The figures are borrowed from *Z. haraldmeieri* and other species in the family. Use a heat lamp over the highest point and a heat mat under one end of the substrate. The animal must be able to withdraw completely from the heat.

At night the temperature can fall to 20-24 °C. Switch off the heat lamp, and let a weak heat source under the substrate run if the room is cold. Measure with digital thermometers with probes at both ends. The animal basks for short periods in the morning and afternoon and then retreats into the substrate.

Read more: Heat and temperature

HUMIDITY AND WATER

The relative humidity should be 40-60 %, with higher humidity in the damp corner and in the substrate. The species lives both in moist forest and in dry, open areas, so the air must not be desert-dry, but not wet either. Keep a third of the substrate damp, and mist lightly every day. Let the substrate dry out a little so that mould does not take hold.

Provide a bowl of fresh water large enough to lie in. The animal likes to lie in the water, especially in the afternoon and during shedding. Change the water daily, because the bowl quickly becomes dirty.

Read more: Humidity, misting and ventilation

LIGHTING AND UVB

The species is diurnal and basks in open clearings, so it needs strong light and UVB. Use a 10-12 % T5 HO tube over the basking spot in a reflective fixture, corresponding to Ferguson zone 3, and a daylight tube or an LED lamp for the rest of the enclosure. The aim is a UV index of 2-4 at the basking spot and less in the rest of the enclosure. The zone is an estimate based on lifestyle and habitat.

Switch the light on for 12-14 hours in summer and 10-11 hours in winter. Replace the UVB tubes according to the manufacturer's instructions, and check with a UV meter.

Read more: Lighting and UVB

FEEDING

The species is omnivorous with an emphasis on insects. In the wild it eats a wide range of insects and other small animals, but also fruit and berries. The staple food is insects: crickets, grasshoppers, dubia cockroaches, mealworms and the occasional small superworm, all of which should be smaller than the distance between the animal's eyes. Give a small portion of fruit and vegetables in a bowl three to four times a week, e.g. berries, papaya and grated carrot. Banana should be given only rarely because of its high phosphorus content.

An adult can have a thawed pinky mouse every other week, but no more often, so that it does not become fat. Dust the insects with calcium without D3 at most feedings and with a multivitamin once a week. Gut-load the insects with nutritious food for at least a day before they are offered.

Juveniles are fed daily and adults every other day, as much as they can eat in 10 minutes.

Read more: Feeder animals: keeping and breeding Read more: Calcium, vitamins and supplements

BEHAVIOUR AND HANDLING

Zonosaurus madagascariensis is fast, curious and alert. It is shy of new things and retreats into a hide or digs down when startled. The tail can be shed and grows back, so never grab it. The animal is best accustomed to people by calm movement around the enclosure and feeding from tweezers. It can become tame enough to take food from the fingers, but it is not an animal to be picked up every day.

The species lives alone in the wild. Keep only one male in each enclosure. A pair can be kept together in a large enclosure with two basking spots and many hides, but two animals do not always get along. Separate them if one is chased or kept away from food and warmth. Wash your hands after any contact with the animal and enclosure.

Breeding

SEXUAL MATURITY AND SEXING

Males have a broader tail base and larger femoral pores than females. Size and age at sexual maturity are not documented for the species. Do not breed animals until they are fully grown and in good condition.

MATING

Mating is not described for the species. In related species, breeding follows the seasons: a winter period with shorter days and slightly lower temperatures followed by longer days and more warmth in spring triggers mating. Give the animals a shorter day and lower temperature in winter, and increase day length and warmth again in spring. Keep an eye on mating, and separate the animals if the female is wounded.

EGG-LAYING AND CLUTCHES

The female lays up to five large, elongated eggs in moist soil. How many clutches she lays per year is not documented. Give her a laying box with 10 cm of moist soil or coconut fibre where she can dig. Without a suitable site she may retain the eggs, and this can become life-threatening.

INCUBATION

The eggs are carefully moved, without being turned, to a container with moist vermiculite and incubated at 29-30 °C. The incubation period is not documented for the species. The figures are borrowed from *Matobosaurus validus*, where the eggs hatch after 70-80 days at 30 °C, so the incubation period of *Z. madagascariensis* may differ.

Read more: Incubating eggs

REARING THE YOUNG

The hatchlings are not described for the species. Keep them in a smaller enclosure with the same layout as the adults', with many hides, UVB and a basking spot. Feed them daily with small insects dusted with calcium. Separate them as they grow, so that they do not fight over food and warmth.

Health and common mistakes

There is no species-specific health literature. The following are the typical problems in diurnal lizards:

- Metabolic bone disease from too little UVB and calcium. Provide UVB and dusted insects.
- Obesity from too many mice and too little exercise.
- Respiratory infection and skin problems from a persistently wet substrate without dry zones.
- Shedding problems in air that is too dry. Provide a damp hide.
- Egg-laying difficulties in females without a suitable laying site.
- Intestinal worms and mites, especially in wild-caught animals. Quarantine new animals for at least three months, and have a faecal sample examined.

A healthy animal has clear eyes, a plump tail base and strong legs, eats willingly and is active. Weigh the animal regularly, because weight loss is often the first sign of illness. Reptiles hide illness, so see a vet with reptile experience if the animal loses weight, does not eat or seems lethargic.

Animals in the trade may be wild-caught. They often have more parasites and are more stressed than captive-bred animals, so always ask about the animal's origin.

Read more: Quarantine and hygiene Read more: Common diseases and signs of illness Read more: Buying animals: captive-bred, wild-caught and transport

Always ask someone who knows

This guide is a good place to start, but it cannot replace experience. Animals differ, and much of what matters most is learned from people who have kept the species for years. Talk to a breeder, an experienced keeper or a vet who knows reptiles and amphibians before you get the animal - and again if anything looks wrong.